

Aircraft Manufacturer Aerospatiale

Aircraft Engine Manufacturer Turbomeca (Bastan VII)

No. of Engines 2 Engine Rating 1,145 EHP

Min. T/O Wt. 14.8 k-lb * Min. T/O Dist. @ Min. T/O Wt. †

* Min. T/O Dist. @ Min. T/O Wt. With Abort Dist. †

Max. T/O Wt. Peace-Time 23.4 k-lb Max. T/O Wt. War-Time 23.4 k-lb

* Min. T/O Dist. @ Max. T/O Wt. War-Time 1,970 ft

* Min. T/O Dist. @ Max. T/O Wt. War-Time With Abort Dist. †

Min. Ldg. Wt. 22.7 k-lb Max. Ldg. Wt. 23.0 k-lb

* Min. Ldg. Dist. @ Min. Ldg. Wt. †

* Min. Ldg. Dist. @ Max. Ldg. Wt. 1,200 ft

* These distances are at 59°F, at sea level, with zero runway gradient, and on a clean dry runway surface.

ACN

| Weight | Rigid Pavement Subgrades | | | | Flexible Pavement Subgrades | | | |
|--------|--------------------------|--------------------|-----------------|-----------------|-----------------------------|------------------|--------------------|-----------------|
| | High <u>A</u> | Medium <u>B</u> | Low <u>C</u> | Low <u>D</u> | Ultra | High <u>A</u> | Medium <u>B</u> | Low <u>C</u> |

Note: Adequate aircraft data is not available to express the relative structural effect of the aircraft.

Figure A-262. Aerospatiale Nord 262

27 Sep 91

Aircraft Manufacturer Hawker Siddeley (Formerly De Havilland)Aircraft Engine Manufacturer De Havilland (D.H. Gipsy Queen 30 MK.2)No. of Engines 4 Engine Rating 250 HPMin. T/O Wt. 9.2 k-lb * Min. T/O Dist. @ Min. T/O Wt. †Min. T/O Dist. @ Min. T/O Wt. With Abort Dist. †Max. T/O Wt. Peace-Time 13.5 k-lb Max. T/O Wt. War-Time 13.5 k-lb* Min. T/O Dist. @ Max. T/O Wt. War-Time 2,425 ft
(To 50 ft)* Min. T/O Dist. @ Max. T/O Wt. War-Time With Abort Dist. †Min. Ldg. Wt. 12.0 k-lb Max. Ldg. Wt. 13.2 k-lb* Min. Ldg. Dist. @ Min. Ldg. Wt. †* Min. Ldg. Dist. @ Max. Ldg. Wt. 2,065 ft
(From 50 ft)

* These distances are at 59°F, at sea level, with zero runway gradient, and on a clean dry runway surface.

ACN

| Weight | Rigid Pavement Subgrades | | | | Flexible Pavement Subgrades | | | | Very Low D |
|--------|--------------------------|-------------|----------|------------|-----------------------------|-------------|----------|--|------------------|
| | High A | Medium B | Low C | Ultra D | High A | Medium B | Low C | | |
| | | | | | | | | | |

Note: Adequate aircraft data is not available to express the relative structural effect of the aircraft.

Figure A-263. Hawker Siddeley Heron

Aircraft Manufacturer Hawker Siddeley

Aircraft Engine Manufacturer Rolls-Royce (Dart RDa.7 MK532-2L or -2S)

No. of Engines 2 Engine Rating 2,280 HP

Min. T/O Wt. 29.8 k-lb * Min. T/O Dist. @ Min. T/O Wt. †

* Min. T/O Dist. @ Min. T/O Wt. With Abort Dist. †

Max. T/O Wt. Peace-Time 44.5 k-lb Max. T/O Wt. War-Time 44.5 k-lb

* Min. T/O Dist. @ Max. T/O Wt. War-Time 2,670 ft

* Min. T/O Dist. @ Max. T/O Wt. War-Time With Abort Dist. †

Min. Ldg. Wt. 39.5 k-lb Max. Ldg. Wt. 43.0 k-lb

* Min. Ldg. Dist. @ Min. Ldg. Wt. †

* Min. Ldg. Dist. @ Max. Ldg. Wt. 1,280 ft

* These distances are at 59°F, at sea level, with zero runway gradient, and on a clean dry runway surface.

ACN

| Weight | Rigid Pavement Subgrades | | | | Flexible Pavement Subgrades | | | | Very Low D | |
|--------|--------------------------|-------------|----------|----------|-----------------------------|---|--------|----|------------------|--|
| | Ultra | | Low | | High | | Medium | | | |
| | High A | Medium B | Low C | Low D | A | B | C | | | |
| 40 | 8 | 9 | 9 | 10 | 7 | 8 | 9 | 11 | | |
| 43 | 9 | 10 | 10 | 11 | 7 | 8 | 10 | 12 | | |
| 45 | 10 | 10 | 11 | 11 | 8 | 9 | 11 | 12 | | |

Figure A-264. Hawker Siddeley HS-748

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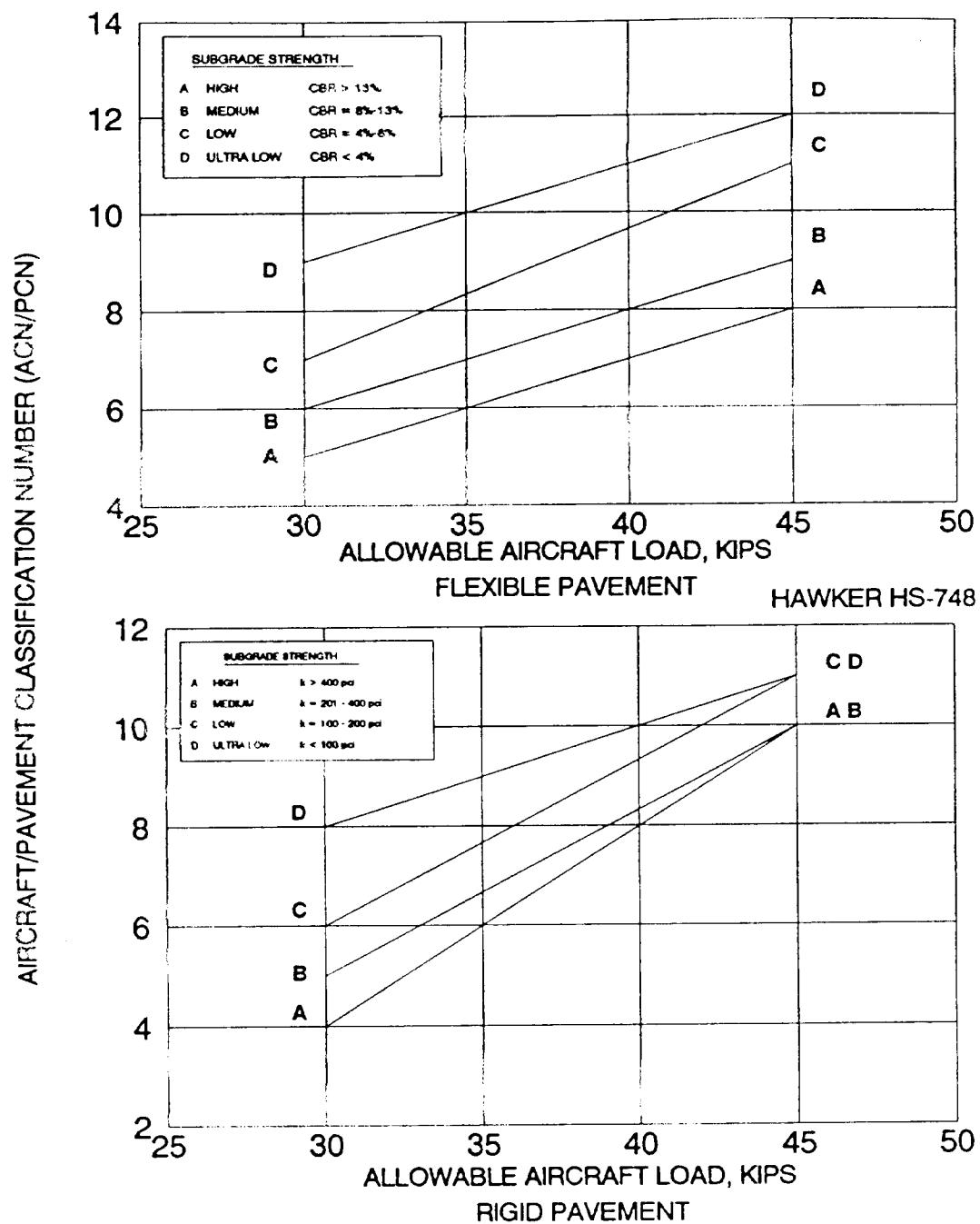


Figure A-265. Hawker Siddeley HS-748, ACN/PCN Curves

Aircraft Manufacturer Nihon Aeroplane Mfg. Co.

Aircraft Engine Manufacturer Rolls-Royce (Dart RD.10/1 MK 542)

No. of Engines 2 Engine Rating 3,060 HP

Min. T/O Wt. 38.4 k-lb * Min. T/O Dist. @ Min. T/O Wt. †

* Min. T/O Dist. @ Min. T/O Wt. With Abort Dist. †

Max. T/O Wt. Peace-Time 55.1 k-lb Max. T/O Wt. War-Time 55.1 k-lb

* Min. T/O Dist. @ Max. T/O Wt. War-Time 4,200 ft
(To 35 ft)

* Min. T/O Dist. @ Max. T/O Wt. War-Time With Abort Dist. †

Min. Ldg. Wt. 50.8 k-lb Max. Ldg. Wt. 54.0 k-lb

* Min. Ldg. Dist. @ Min. Ldg. Wt. †

* Min. Ldg. Dist. @ Max. Ldg. Wt. 2,190 ft
(From 50 ft)

* These distances are at 59°F, at sea level, with zero runway gradient, and on a clean dry runway surface.

ACN

| Weight | Rigid Pavement Subgrades | | | | Flexible Pavement Subgrades | | | | Very Low D |
|--------|--------------------------|-------------|----------|-------------------|-----------------------------|-------------|----------|--|------------------|
| | High A | Medium B | Low C | Ultra Low D | High A | Medium B | Low C | | |
| | | | | | | | | | |

Note: Adequate aircraft data is not available to express the relative structural effect of the aircraft.

Figure A-266. Nihon/N.A.M.C. YS-11A

ETL 1110-3-394

27 Sep 91

Aircraft Manufacturer McDonnell Douglas

Aircraft Engine Manufacturer Pratt and Whitney (R-2000)

No. of Engines 4 Engine Rating 1,450 HP

Min. T/O Wt. 45.0 k-lb * Min. T/O Dist. @ Min. T/O Wt. 700 ft

* Min. T/O Dist. @ Min. T/O Wt. With Abort Dist. †

Max. T/O Wt. Peace-Time 73.0 k-lb Max. T/O Wt. War-Time 73.0 k-lb

* Min. T/O Dist. @ Max. T/O Wt. War-Time 2,100 ft

* Min. T/O Dist. @ Max. T/O Wt. War-Time With Abort Dist. †

Min. Ldg. Wt. 45.0 k-lb Max. Ldg. Wt. 63.5 k-lb

* Min. Ldg. Dist. @ Min. Ldg. Wt. 1,200 ft

* Min. Ldg. Dist. @ Max. Ldg. Wt. 1,700 ft

* These distances are at 59°F, at sea level, with zero runway gradient, and on a clean dry runway surface.

ACN

| Weight | Rigid Pavement Subgrades | | | | Flexible Pavement Subgrades | | | |
|--------|--------------------------|-------------|----------|-------------------|-----------------------------|-------------|----------|------------------|
| | High A | Medium B | Low C | Ultra Low D | High A | Medium B | Low C | Very Low D |
| 45 | 7 | 8 | 9 | 10 | 5 | 6 | 8 | 10 |
| 64 | 11 | 12 | 14 | 15 | 8 | 11 | 13 | 16 |
| 73 | 13 | 14 | 16 | 18 | 11 | 13 | 16 | 20 |

Figure A-267. Douglas DC-4

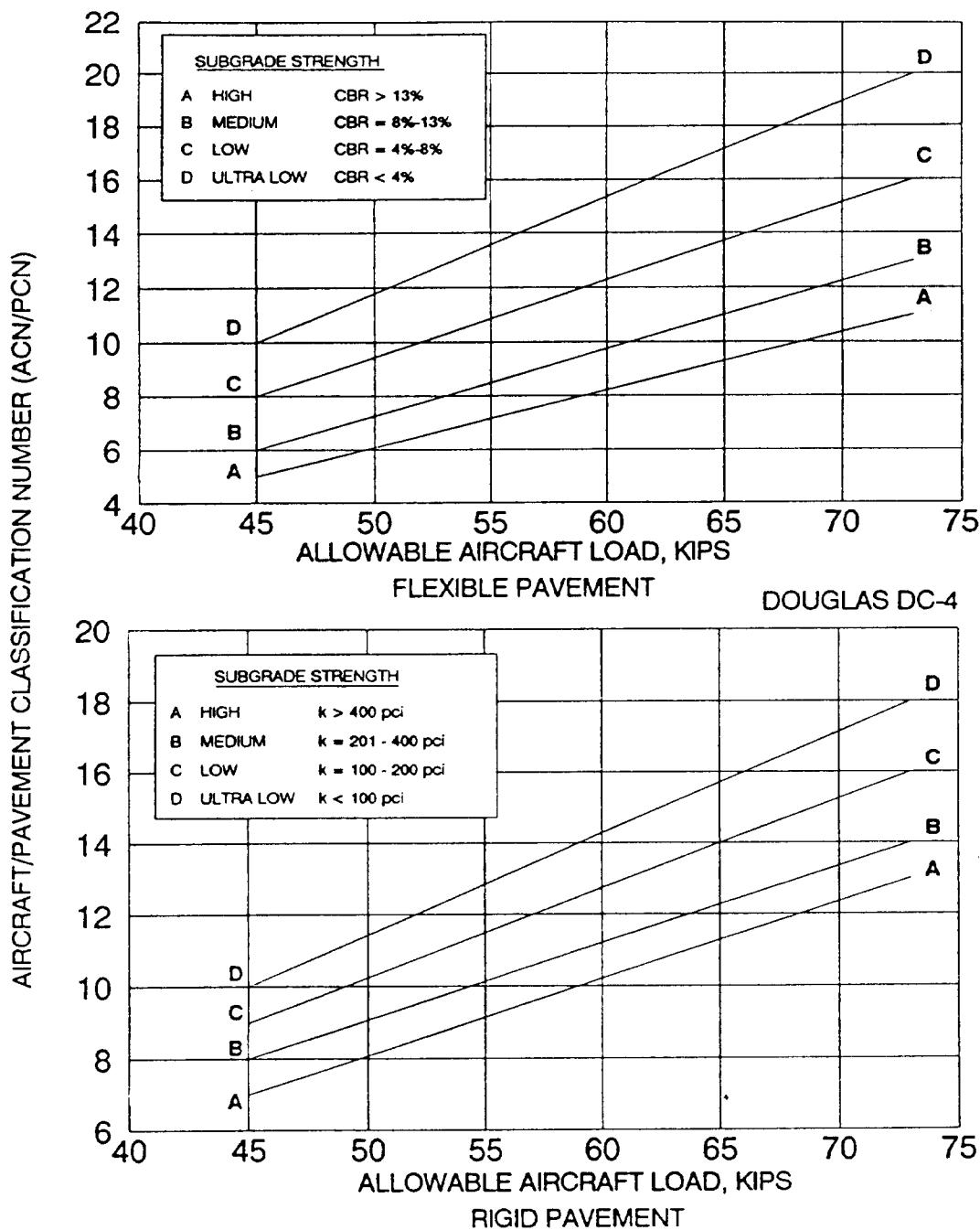


Figure A-268. Douglas DC-4, ACN/PCN Curves

ETL 1110-3-394

27 Sep 91

Aircraft Manufacturer McDonnell Douglas

Aircraft Engine Manufacturer Pratt and Whitney (R-2800-CB17)

No. of Engines 4 Engine Rating 2,500 HP

Min. T/O Wt. 64.1 k-lb * Min. T/O Dist. @ Min. T/O Wt. †

* Min. T/O Dist. @ Min. T/O Wt. With Abort Dist. †

Max. T/O Wt. Peace-Time 106.0 k-lb Max. T/O Wt. War-Time 106.0 k-lb

* Min. T/O Dist. @ Max. T/O Wt. War-Time 4,500 ft

* Min. T/O Dist. @ Max. T/O Wt. War-Time With Abort Dist. †

Min. Ldg. Wt. 76.2 k-lb Max. Ldg. Wt. 88.2 k-lb

* Min. Ldg. Dist. @ Min. Ldg. Wt. †

* Min. Ldg. Dist. @ Max. Ldg. Wt. 2,250 ft

* These distances are at 59°F, at sea level, with zero runway gradient, and on a clean dry runway surface.

ACN

| Weight | Rigid Pavement Subgrades | | | | Flexible Pavement Subgrades | | | |
|--------|--------------------------|-------------|----------|-------------------|-----------------------------|-------------|----------|------------------|
| | High A | Medium B | Low C | Ultra Low D | High A | Medium B | Low C | Very Low D |
| 76 | 16 | 17 | 19 | 19 | 11 | 14 | 16 | 20 |
| 88 | 19 | 20 | 23 | 23 | 15 | 17 | 20 | 25 |
| 106 | 23 | 25 | 28 | 28 | 20 | 23 | 26 | 31 |

Figure A-269. Douglas DC-6

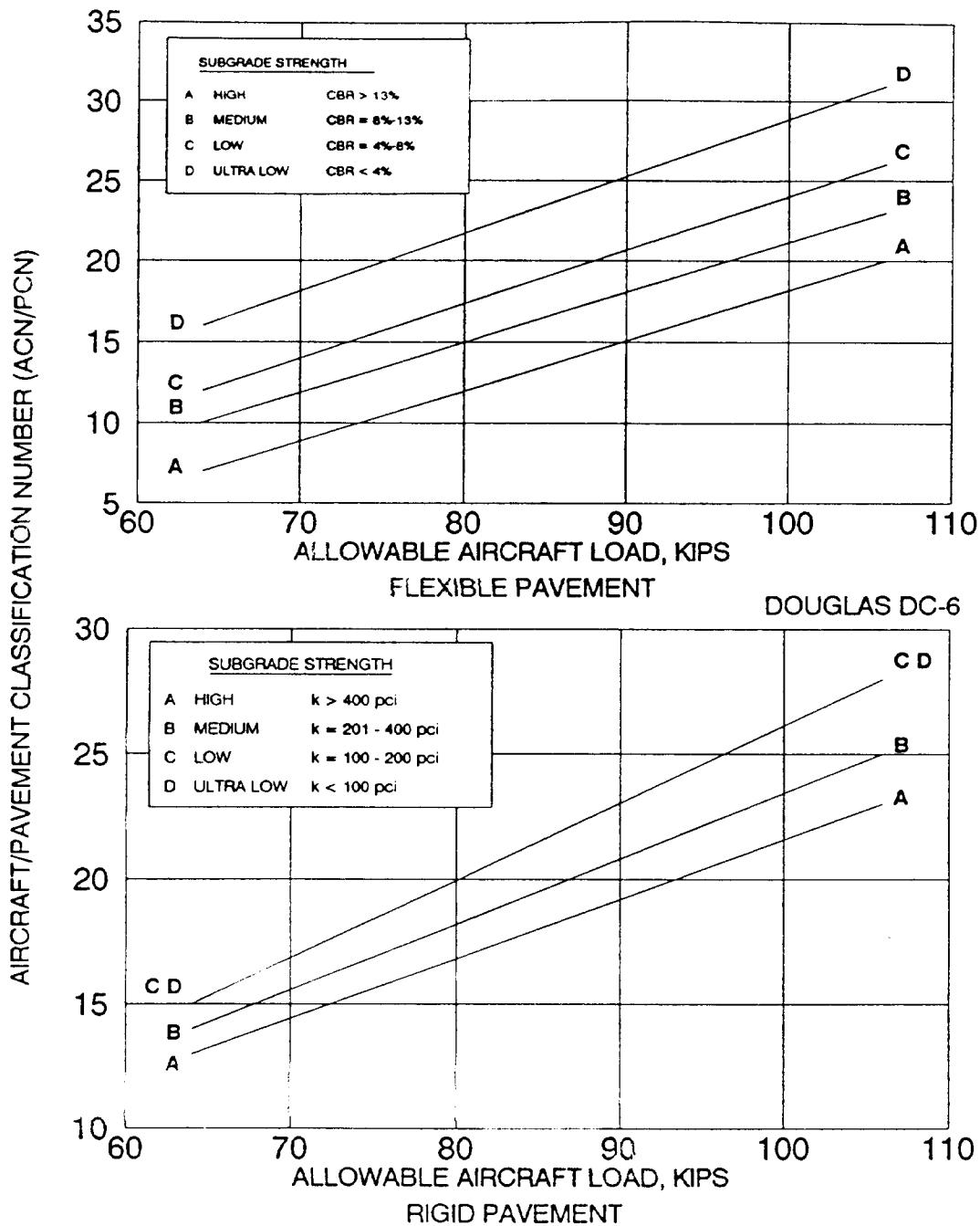


Figure A-270. Douglas DC-6, ACN/PCN Curves

27 Sep 91

Aircraft Manufacturer McDonnell DouglasAircraft Engine Manufacturer Wright (R-3350-18EA1)No. of Engines 4 Engine Rating 3,400 HPMin. T/O Wt. 93.0 k-lb * Min. T/O Dist. @ Min. T/O Wt. †* Min. T/O Dist. @ Min. T/O Wt. With Abort Dist. †Max. T/O Wt. Peace-Time 143.0 k-lb Max. T/O Wt. War-Time 143.0 k-lb* Min. T/O Dist. @ Max. T/O Wt. War-Time 6,400 ft* Min. T/O Dist. @ Max. T/O Wt. War-Time With Abort Dist. †Min. Ldg. Wt. 100.8 k-lb Max. Ldg. Wt. 109.0 k-lb* Min. Ldg. Dist. @ Min. Ldg. Wt. †* Min. Ldg. Dist. @ Max. Ldg. Wt. 5,100 ft

* These distances are at 59°F, at sea level, with zero runway gradient, and on a clean dry runway surface.

ACN

| Weight | Rigid Pavement Subgrades | | | | Flexible Pavement Subgrades | | | |
|--------|--------------------------|----|--------|-----|-----------------------------|------|----|----------|
| | High | | Medium | Low | Ultra | High | | Very Low |
| | A | B | C | D | A | B | C | D |
| 101 | 24 | 26 | 28 | 28 | 18 | 21 | 25 | 29 |
| 109 | 26 | 28 | 30 | 31 | 20 | 23 | 27 | 32 |
| 143 | 36 | 38 | 41 | 43 | 32 | 35 | 40 | 44 |

Figure A-271. Douglas DC-7

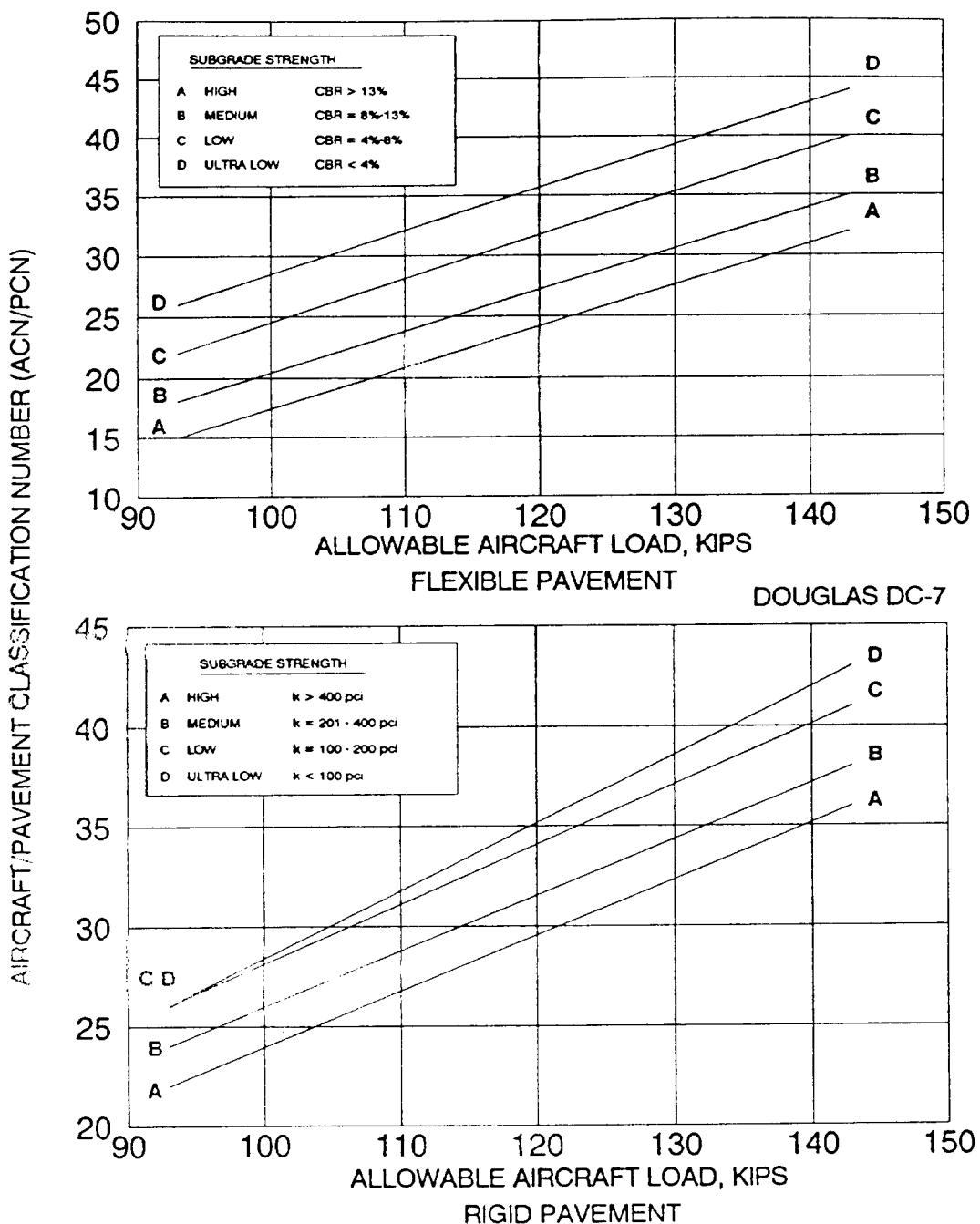


Figure A-272. Douglas DC-7, ACN/PCN Curves

ETL 1110-3-394

27 Sep 91

Aircraft Manufacturer Lockheed

Aircraft Engine Manufacturer Allison (501-D13)

No. of Engines 4 Engine Rating 3,750 SHP

Min. T/O Wt. 66.7 k-lb * Min. T/O Dist. @ Min. T/O Wt. 2,600 ft

* Min. T/O Dist. @ Min. T/O Wt. With Abort Dist. †

Max. T/O Wt. Peace-Time 116.0 k-lb Max. T/O Wt. War-Time 116.0 k-lb

* Min. T/O Dist. @ Max. T/O Wt. War-Time 5,000 ft

* Min. T/O Dist. @ Max. T/O Wt. War-Time With Abort Dist. †

Min. Ldg. Wt. 86.0 k-lb Max. Ldg. Wt. 95.7 k-lb

* Min. Ldg. Dist. @ Min. Ldg. Wt. 4,400 ft

* Min. Ldg. Dist. @ Max. Ldg. Wt. 4,900 ft

* These distances are at 59°F, at sea level, with zero runway gradient, and on a clean dry runway surface.

ACN

| Weight | Rigid Pavement Subgrades | | | | Flexible Pavement Subgrades | | | |
|--------|--------------------------|-------------|----------|----------|-----------------------------|-------------|----------|----------|
| | | | | | Very | | | |
| | High A | Medium B | Low C | Low D | High A | Medium B | Low C | Low D |
| 86 | 22 | 23 | 25 | 26 | 17 | 19 | 22 | 26 |
| 96 | 25 | 26 | 28 | 29 | 20 | 22 | 26 | 29 |
| 116 | 32 | 33 | 35 | 36 | 27 | 29 | 33 | 36 |

Figure A-273. Lockheed L-188, Electra II

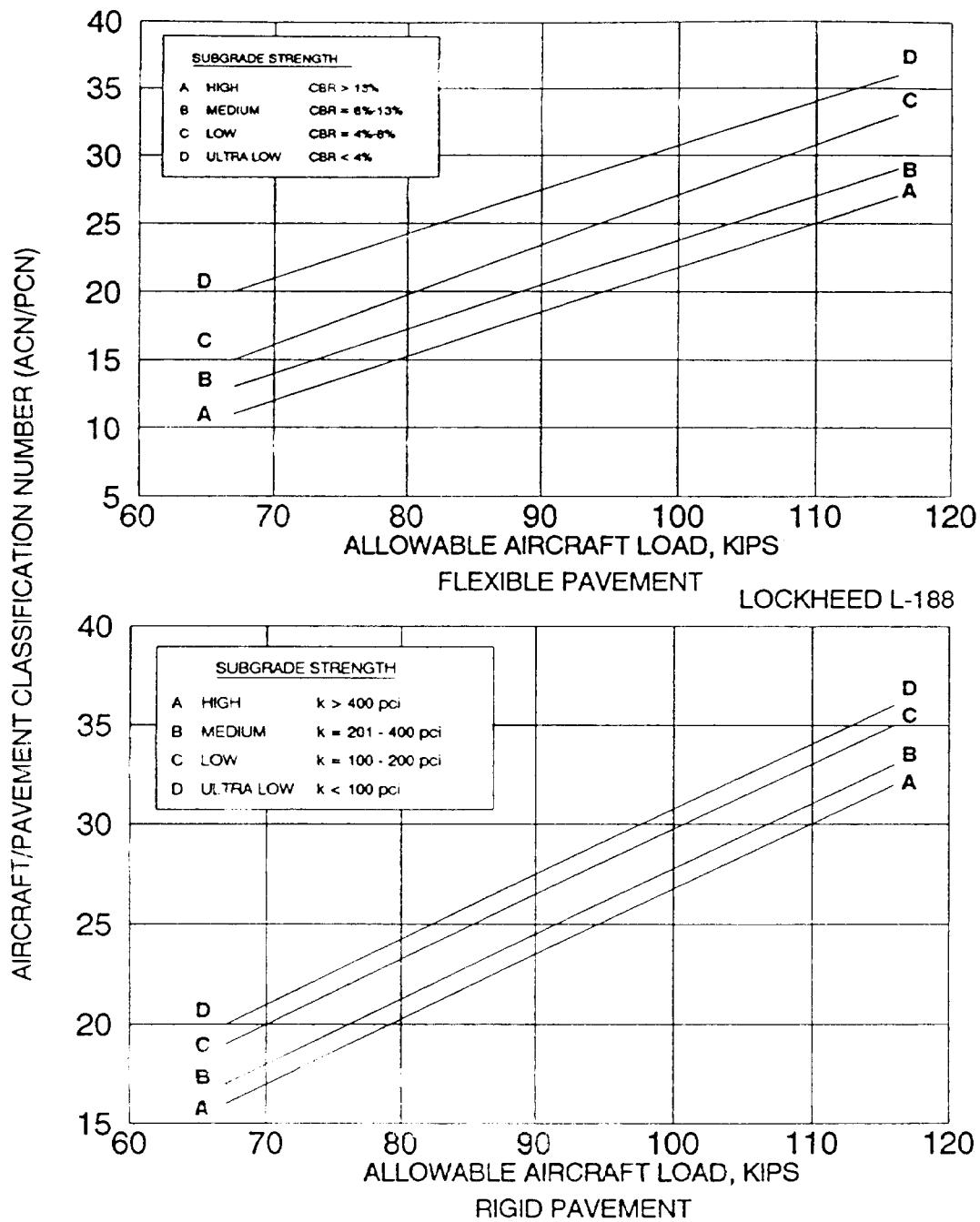


Figure A-274. Lockheed L-188, ACN/PCN Curves

ETL 1110-3-394

27 Sep 91

Aircraft Manufacturer Lockheed

Aircraft Engine Manufacturer Allison (501-D22A)

No. of Engines 4 Engine Rating 4 508 SHP

Min. T/O Wt. 84.1 k-lb * Min. T/O Dist. @ Min. T/O Wt. 4,000 ft

* Min. T/O Dist. @ Min. T/O Wt. With Abort Dist. †

Max. T/O Wt. Peace-Time 155.0 k-lb Max. T/O Wt. War-Time 155.0 k-lb

* Min. T/O Dist. @ Max. T/O Wt. War-Time 6,000 ft

* Min. T/O Dist. @ Max. T/O Wt. War-Time With Abort Dist. †

Min. Ldg. Wt. 120.0 k-lb Max. Ldg. Wt. 130.0 k-lb

* Min. Ldg. Dist. @ Min. Ldg. Wt. 4,300 ft

* Min. Ldg. Dist. @ Max. Ldg. Wt. 4,760 ft

* These distances are at 59°F, at sea level, with zero runway gradient, and on a clean dry runway surface.

ACN

| Weight | Rigid Pavement Subgrades | | | | Flexible Pavement Subgrades | | | | Very Low D | |
|--------|--------------------------|-------------|----------|----------|-----------------------------|-------------|----------|----------|------------------|--|
| | Ultra | | | | High A | Medium B | Low C | Low D | | |
| | High A | Medium B | Low C | Low D | | | | | | |
| 120 | 23 | 23 | 26 | 27 | 17 | 20 | 23 | 26 | | |
| 130 | 25 | 25 | 29 | 30 | 20 | 22 | 25 | 29 | | |
| 155 | 31 | 31 | 35 | 36 | 26 | 29 | 31 | 36 | | |

Figure A-275. Lockheed L-382 (L-100-20), Hercules

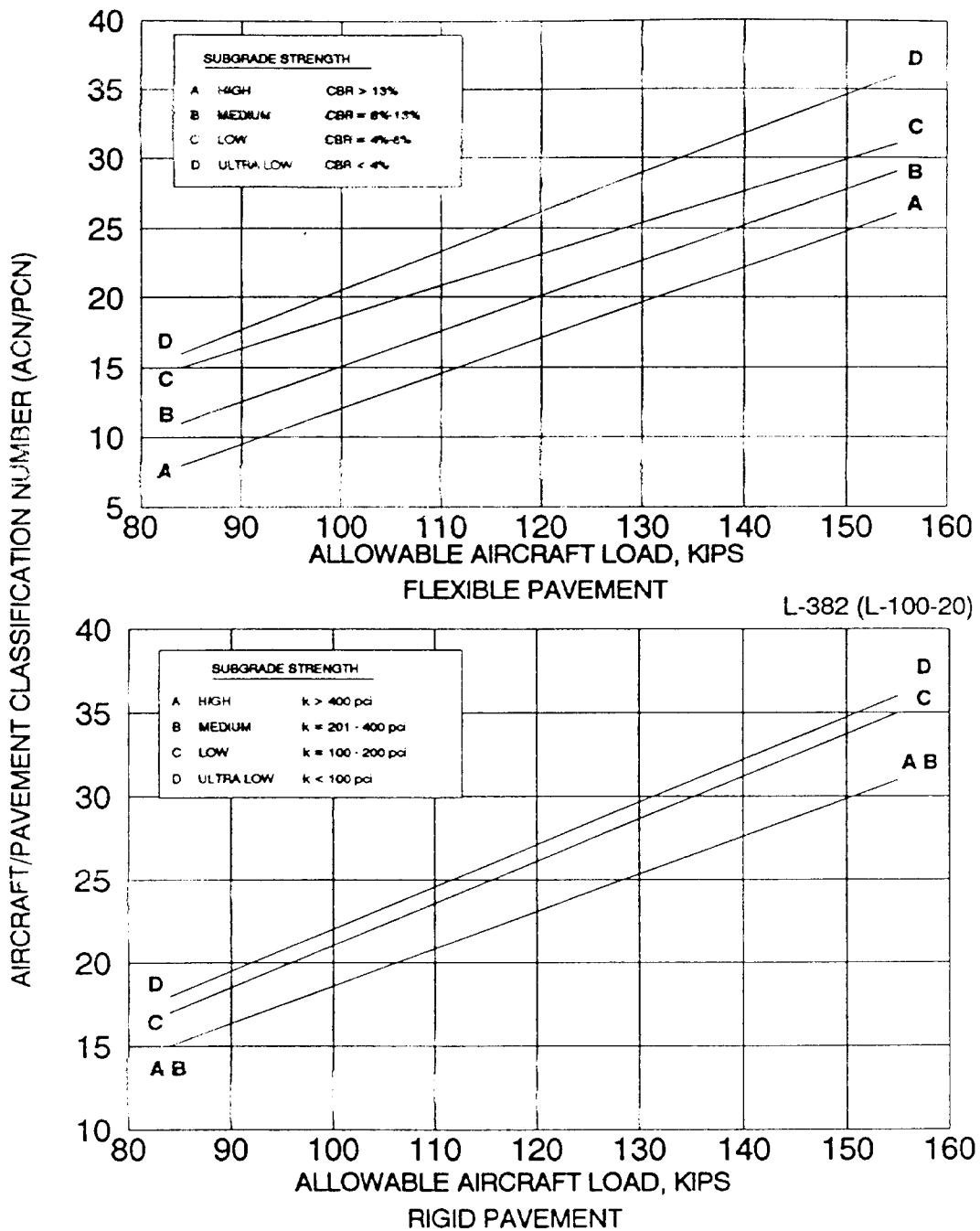


Figure A-276. Lockheed L-382 (L-100-20), ACN/PCN Curves

ETL 1110-3-394

27 Sep 91

Aircraft Manufacturer Lockheed

Aircraft Engine Manufacturer Allison (501-D22A)

No. of Engines 4 Engine Rating 4,508 SHP

Min. T/O Wt. 84.6 k-lb * Min. T/O Dist. @ Min. T/O Wt. 4,050 ft

* Min. T/O Dist. @ Min. T/O Wt. With Abort Dist. †

Max. T/O Wt. Peace-Time 155.0 k-lb Max. T/O Wt. War-Time 155.0 k-lb

* Min. T/O Dist. @ Max. T/O Wt. War-Time 6,000 ft

* Min. T/O Dist. @ Max. T/O Wt. War-Time With Abort Dist. †

Min. Ldg. Wt. 128.8 k-lb Max. Ldg. Wt. 135.0 k-lb

* Min. Ldg. Dist. @ Min. Ldg. Wt. 4,600 ft

* Min. Ldg. Dist. @ Max. Ldg. Wt. 4,830 ft

* These distances are at 59°F, at sea level, with zero runway gradient, and on a clean dry runway surface.

ACN

| Weight | Rigid Pavement Subgrades | | | | Flexible Pavement Subgrades | | | |
|--------|--------------------------|-------------|----------|----------|-----------------------------|-------------|----------|----------|
| | Ultra | | Low | | High | | Very Low | |
| | High A | Medium B | Low C | Low D | High A | Medium B | Low C | Low D |
| 129 | 25 | 25 | 28 | 29 | 20 | 22 | 25 | 29 |
| 135 | 26 | 26 | 30 | 31 | 21 | 24 | 26 | 30 |
| 155 | 31 | 31 | 35 | 36 | 26 | 29 | 31 | 36 |

Figure A-277. Lockheed L-382 (L-100-30), Hercules

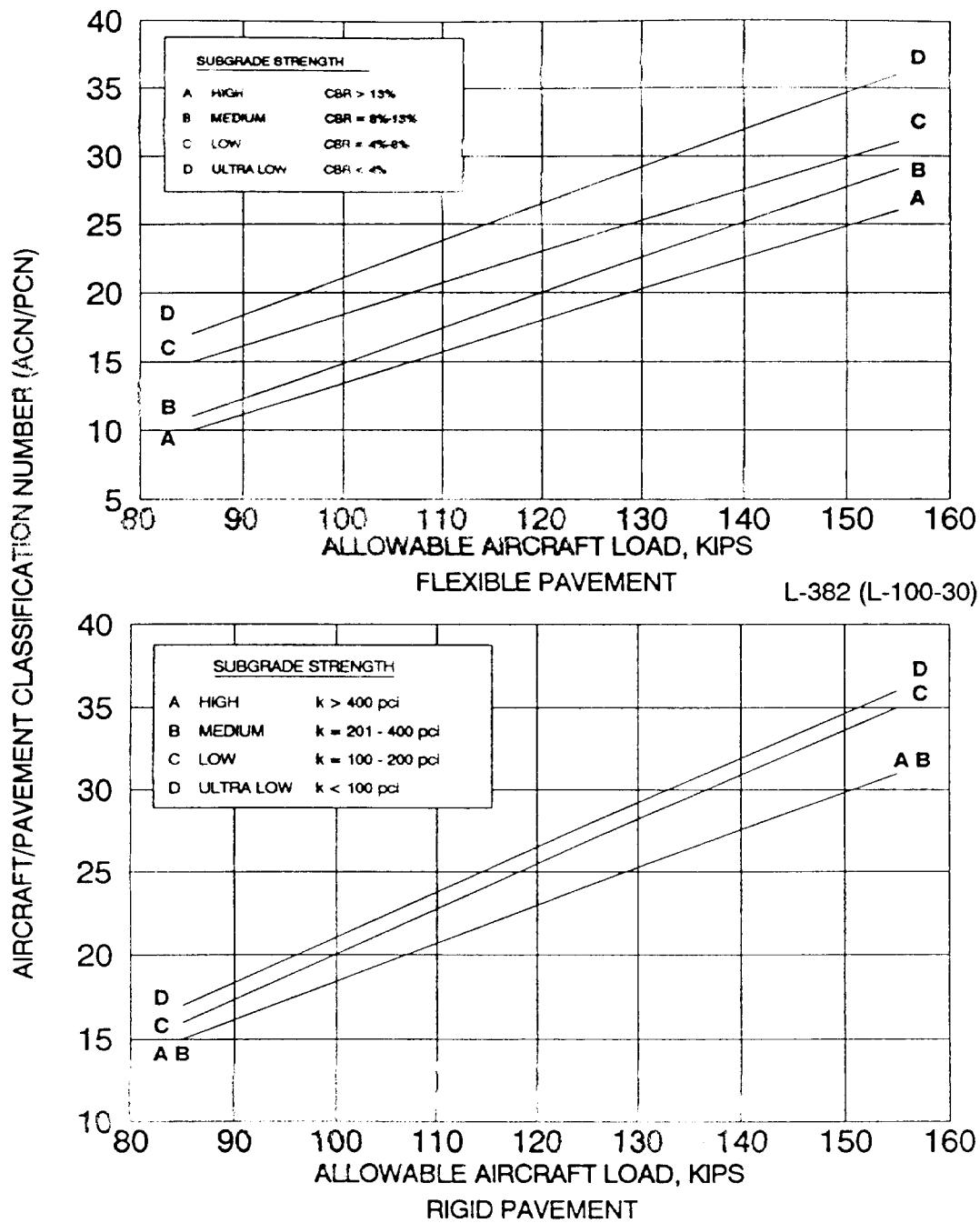


Figure A-278. Lockheed L-382 (L-100-30), ACN/PCN Curves

27 Sep 91

Aircraft Manufacturer LockheedAircraft Engine Manufacturer Wright (GR-3350-BD1)No. of Engines 4 Engine Rating 2,500 HPMin. T/O Wt. 67.6 k-lb * Min. T/O Dist. @ Min. T/O Wt. †* Min. T/O Dist. @ Min. T/O Wt. With Abort Dist. †Max. T/O Wt. Peace-Time 107.0 k-lb Max. T/O Wt. War-Time 107.0 k-lb* Min. T/O Dist. @ Max. T/O Wt. War-Time 2,000 ft* Min. T/O Dist. @ Max. T/O Wt. War-Time With Abort Dist. †Min. Ldg. Wt. 67.6 k-lb Max. Ldg. Wt. 89.5 k-lb* Min. Ldg. Dist. @ Min. Ldg. Wt. †* Min. Ldg. Dist. @ Max. Ldg. Wt. 2,500 ft
(From 50 ft)

* These distances are at 59°F, at sea level, with zero runway gradient, and on a clean dry runway surface.

ACN

| Weight | Rigid Pavement Subgrades | | | | Flexible Pavement Subgrades | | | | Very |
|--------|--------------------------|-------------|----------|-------------------|-----------------------------|-------------|----------|----------|------|
| | High A | Medium B | Low C | Ultra Low D | High A | Medium B | Low C | Low D | |
| | | | | | | | | | |

Note: Adequate aircraft data is not available to express the relative structural effect of the aircraft.

Figure A-279. Lockheed 749A, Constellation

Aircraft Manufacturer Lockheed

Aircraft Engine Manufacturer Wright (R-3350-91)

No. of Engines 4 Engine Rating 3,400 HP

Min. T/O Wt. 87.8 k-lb * Min. T/O Dist. @ Min. T/O Wt. 1,750 ft

* Min. T/O Dist. @ Min. T/O Wt. With Abort Dist. †

Max. T/O Wt. Peace-Time 135.4 k-lb Max. T/O Wt. War-Time 145.0 k-lb

* Min. T/O Dist. @ Max. T/O Wt. War-Time 5,000 ft

* Min. T/O Dist. @ Max. T/O Wt. War-Time With Abort Dist. †

Min. Ldg. Wt. 80.5 k-lb Max. Ldg. Wt. 122.0 k-lb

Min. Ldg. Dist. @ Min. Ldg. Wt. 1,750 ft

* Min. Ldg. Dist. @ Max. Ldg. Wt. 2,500 ft

* These distances are at 59°F, at sea level, with zero runway gradient, and on a clean dry runway surface.

ACN

| Weight | Rigid Pavement Subgrades | | | | Flexible Pavement Subgrades | | | |
|--------|--------------------------|-------------|----------|-------------------|-----------------------------|-------------|----------|------------------|
| | High A | Medium B | Low C | Ultra Low D | High A | Medium B | Low C | Very Low D |
| | | | | | | | | |

Note: Adequate aircraft data is not available to express the relative structural effect of the aircraft.

Figure A-280. Lockheed 1049, Super Constellation

27 Sep 91

Aircraft Manufacturer LockheedAircraft Engine Manufacturer Wright (988TC18EA2)No. of Engines 4 Engine Rating 3,400 BHPMin. T/O Wt. 103.4 k-lb * Min. T/O Dist. @ Min. T/O Wt. †* Min. T/O Dist. @ Min. T/O Wt. With Abort Dist. †Max. T/O Wt. Peace-Time 156.0 k-lb Max. T/O Wt. War-Time 156.0 k-lb* Min. T/O Dist. @ Max. T/O Wt. War-Time 5,700 ft* Min. T/O Dist. @ Max. T/O Wt. War-Time With Abort Dist. †Min. Ldg. Wt. 116.0 k-lb Max. Ldg. Wt. 123.0 k-lb* Min. Ldg. Dist. @ Min. Ldg. Wt. †* Min. Ldg. Dist. @ Max. Ldg. Wt. 3,600 ft

* These distances are at 59°F, at sea level, with zero runway gradient, and on a clean dry runway surface.

ACN

| Weight | Rigid Pavement Subgrades | | | | Flexible Pavement Subgrades | | | |
|--------|--------------------------|-------------|----------|------------|-----------------------------|-------------|----------|------------------|
| | High A | Medium B | Low C | Ultra D | High A | Medium B | Low C | Very Low D |
| | | | | | | | | |

Note: Adequate aircraft data is not available to express the relative structural effect of the aircraft.

Figure A-281. Lockheed 1649A, Starliner